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[54] **ORDERED SPARSE ACCUMULATOR AND ITS USE IN EFFICIENT SPARSE MATRIX COMPUTATION**

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[52] **U.S. Cl.** **707/101; 395/707; 395/708; 364/736.03**

[58] **Field of Search** 395/601–602, 395/607–612, 621–622, 570–708; 364/800.11–800.16, 725.01–754.02; 707/1–206

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[57] **ABSTRACT**

A data structure, called an ordered sparse accumulator (Ordered SPA), permits sequencing in numeric order by index and dynamic alteration of the nonzero structure of the active column in sparse matrix computations during the sequencing operation.

5 Claims, 5 Drawing Sheets

Standard LU Factorization Time Normalized to Ordered SPA LU Factorization Time = 1

west1505	watt1	sherman5	orsreg1	saylr4	orani678	swang1
2.29	1.81	1.51	1.59	1.62	1.68	1.60